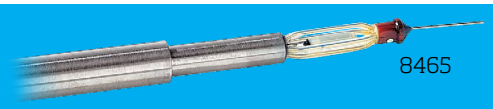
AIR VELOCITY TRANSDUCERS MODELS 8455, 8465, AND 8475


8455


8465


8475

The 8455, 8465, and 8475 Air Velocity Transducers are ideal for both temporary and permanent installations for air velocity measurements in research and development labs, manufacturing processes, and other applications. The full-scale range, signal output, and time constant are user selectable and can be easily changed to meet the needs of your application.

Applications

+ Comfort and draft studies
+ Critical environment installations (e.g., clean rooms and hospitals)
+ Diffuser design analysis
+ Monitoring drying processes
+ Monitoring air flows in tunnels and subways
+ Used as a standard in wind tunnels and calibration facilities
+ Environmental monitoring in greenhouses and IAQ applications
+ General engineering applications

General Purpose (8455)

+ Protected probe tip
+ Rugged ceramic sensor
+ Wide range of measurement applications
+ Fast response time

Windowless (8465)

+ Less flow blockage
+ Ideal for measuring in confined spaces
+ Fast response time

Omnidirectional (8475)

+ Omnidirectional probe tip
+ Accurate at low velocities from 10 to 100 ft/min (0.05 to 0.5 m/s)
+ Ideal for unknown or varying flow direction

TSI®

UNDERSTANDING, ACCELERATED

SPECIFICATIONS

AIR VELOCITY TRANSDUCERS
MODELS 8455, 8465, AND 8475

Accuracy

8455	±2.0% of reading[1], ±0.5% of full scale of selected range
8465	±2.0% of reading[1], ±0.5% of full scale of selected range
8475	±3.0% of reading[2], ±1.0% of full scale of selected range

Field Selectable Range

8455 and 8465	25 ft/min to 200, 250, 300, 400, 500, 750, 1,000, 1,250, 1,500, 2,000, 2,500, 3,000, 4,000, 5,000, 7,500, 10,000 ft/min (0.125 m/s to 1.0, 1.25, 1.50, 2.0, 2.5, 3.0, 4.0, 5.0, 7.5, 10.0, 12.5, 15.0, 20.0, 25.0, 30.0, 40.0, 50.0 m/s)
8475	10 ft/min to 100, 125, 150, 200, 250, 300, 400, 500 ft/min (0.05 m/s to 0.5, 0.75, 1.0, 1.25, 1.50, 2.0, 2.5 m/s)

Repeatability

8455 and 8465	<±1.0% of reading[3]
8475	N/A

Response to Flow

8455 and 8465	0.2 sec[4]
8475	5 sec[5]

Temperature Range

Compensation	32 to 140°F (0 to 60°C)
Operating (electronics)	32 to 200°F (0 to 93°C)
Operating (sensor)	32 to 200°F (0 to 93°C)
Storage	32 to 200°F (0 to 93°C)

Resolution (minimum)
0.07% of selected full scale

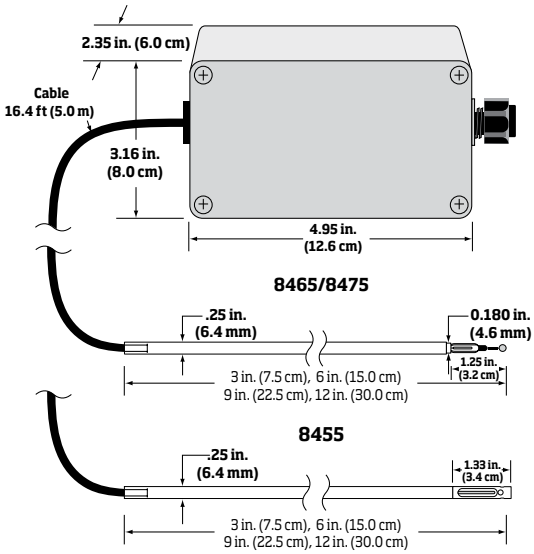
Input Power
11 to 30 VDC or 18 to 38 VAC, 350 mA max[6]

Output

Impedance	
Resistance	Voltage mode: 500 ohms minimum load
Signal	Field selectable 0 to 5V, 0 to 10V, 0 to 20, 2 to 10V, mA, 4 to 20 mA
Time Constant	Field selectable 0.05 to 10 seconds

Probe length
3 in., 6 in., 9 in., 12 in. (7.5 cm, 15 cm, 22.5 cm, or 30 cm)

All models contain on-board electronics and calibration curves that provide a linear signal output. This linear signal is sent out as either a current (mA) or a voltage (V) signal, allowing output to a variety of data loggers or data acquisition systems. In addition, the current and voltage output ranges are user-selectable for your convenience.



	8455/8465	8475
Range	25 to 10,000 fpm (0.127 to 50.8 m/s), selectable	10 to 500 fpm (0.05 to 2.54 m/s), selectable
Accuracy	±(2% of reading at 64.4 to 82.4°F (18-28°C) +0.5% of full scale of selected range)	±(3% of reading at 68.0-78.8°F (20 to 26°C) +1% of full scale of selected range)
Response time	0.2 seconds	5.0 seconds
Input power	11 to 30 VDC or 18 to 28 VAC, 350 mA maximum	

[1]From 64.4 to 82.4°F (18 to 28°C), outside this range and within temperature compensation range add 0.11% per °F (0.2% per °C).
[2]From 68 to 78.8°F (20 to 26°C), outside this range and within temperature compensation range add 0.28% per °F (0.5% per °C). Directional sensitivity of the Model 8475 is +5%/-20% of reading +0/-10 ft/min (+0/-0.05 m/s) over 270° solid angle regardless of flow direction.
[3]Standard deviation based on one minute average from 100 to 1,000 fpm (0.5 to 5.0 m/s).
[4]For 63% of final value, tested at 1,500 fpm (7.5 m/s).
[5]For 63% of final value, tested at 500 fpm (2.5 m/s).
[6]Input voltage must be maintained within specifications at the transducer.

Specifications are subject to change without notice.

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